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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/655,954	09/06/2000	ROBERT TINGLEY	DPL-005-(6209/7)	8524

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EXAMINER

LAU, TUNG S

ART UNIT PAPER NUMBER

2863

DATE MAILED: 07/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/655,954

Applicant(s)

TINGLEY ET AL.

Examiner

Tung S Lau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) 56 and 57 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 8-12-14, 16-18, 24-27, 29-32, 34, 36-40, 42-44, 50-53, 55 and 58 is/are rejected.
- 7) ☒ Claim(s) 5, 7, 15, 19-23, 28, 33, 35, 41, 45-49 and 54 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other:

**DETAILED ACTION**

***Election/Restrictions***

***Combination/subcombination***

1 Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-55 and 58 drawn to pipeline analyzer using wave reflection, classified in class 702, subclass 51.
- II. Claims 56 and 57, drawn to pipeline analyzer using error estimation, classified in class 702, subclass 51.

The inventions are distinct, each from the other because of the following reasons:

Inventions of each of groups I-II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, inventions can each be used for their respective uses has separate utility such as different way to analyze pipeline. See MPEP § 806.05(d).

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

During a telephone conversation with John Bianco on 7/8/03 a provisional election was made **without traverse** to prosecute the invention of group I, claims 1-55 and 58. Affirmation of this election must be made by applicant in replying to this Office action. Claims 56 and 57 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1, 29, 55, 58, 2, 3, 4, 6, 8, 9, 10, 11, 12-14, 16, 17, 18, 24, 25, 26, 27, 30-32, 34, 36-40, 42-44, 50-53 are rejected under 35 U.S.C. 102(a) as being anticipated by Ebato Akihiko (JP Patent 411270800A).

Regarding claim 1:

Akihiko discloses a pipeline inspection system comprising, a wave launcher in communication with a pipeline and adapted to transmit an input waveform having a selected input energy along a longitudinal axis inside said pipeline (abstract, fig. 8), and to receive a reflected component of said input waveform from said pipeline, said reflected component having a characteristic reflected energy (abstract), an analyzer in communication with said wave launcher and adapted to generate said input waveform (equ. 1, 2), and to receive said reflected component of said input waveform from said wave launcher (abstract), and a processor in communication with said analyzer and adapted to compare said input waveform with said reflected component of said input waveform to determine a characteristic of said pipeline (page 1, claims 1-2), wherein the wave

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launcher, the analyzer, and the processor operate in a fashion that is noninvasive to the pipeline (fig. 1).

Regarding claim 29:

Akihiko discloses a method of inspecting a characteristic of a pipeline, said method comprising, transmitting an input waveform having a selected input energy along a longitudinal axis inside said pipeline (abstract, fig. 8), receiving a reflected component of said input waveform from said pipeline (abstract), said reflected component having a characteristic reflected energy (abstract), and comparing said input waveform with said reflected component of said input waveform to determine said characteristic of said pipeline (page 1, claims 1-2), wherein the transmitting, receiving, and comparing steps occur in a fashion that is noninvasive to the pipeline (fig. 1)

Regarding claim 55:

Akihiko discloses a method of determining a location of a point along a pipeline, said method comprising, transmitting an input waveform having a selected input energy along a longitudinal axis inside said pipeline (abstract, fig. 8), receiving a reflected component of said input waveform from said pipeline (abstract), said reflected component having a characteristic reflected energy (equ. 1, 2), and comparing said input waveform with said reflected component of said input waveform to determine said location of said point along said pipeline (abstract,

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fig. 1), wherein the transmitting, receiving, and comparing steps occur in a fashion that is noninvasive to the pipeline (abstract).

Regarding claim 58:

Akihiko discloses a method of inspecting a characteristic of a pipeline, said method comprising, generating an input waveform (abstract, fig. 8), launching said input waveform along a longitudinal axis inside said pipeline (abstract, fig. 1), receiving from said pipeline a reflected component having a characteristic reflected energy of said input waveform (abstract, fig. 1), calculating a mathematical function of said characteristic reflected energy from said reflected component of said input waveform (equ. 1, 2), determining a model mathematical function of model reflected energy from a model component of a model input waveform (equ 1-6), and determining said characteristic of said pipeline by comparing said mathematical function of said reflected energy to said model mathematical function of said model reflected energy (abstract, fig. 1), wherein each step is performed in a fashion that is non-invasive to the pipeline (abstract).

Regarding claims 2, 3, 4, 6, 8, 9, 10, 11, 12-14, 16, 17, 18, 24, 25, 26, 27, 30-32, 34, 36-40, 42-44, 50-53:

Akihiko also disclose comparison of the waveform with reflected components to detect anomaly in the pipeline, with crack, corrosion (section 007-0010), location of the anomaly (section 0017-0022), compare the waveform (equ. 1-7), size of pipeline (claim 5), location to a known location ((equ. 6), probe antenna (abstract), physical contact to the pipeline (fig. 1, unit 13, 12), reflected wave

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(abstract), mathematical model of the pipeline (equ. 1-7), ideal, lossy model (equ. 1-7), characteristic representation in a model (equ 1-3), reflected components (equ 3-7), extract phase of the waveform (equ. 2), electromagnetic waveform (equ 1-4), acoustic waveform (abstract), wideband waveform (equ. 3).

### ***Claim Objections***

3. Claims 5, 7, 15, 19, 20-23, 28, 33, 35, 41, 45-49, 54 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all the limitation of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: prior art fail to teach to detect the shape, axial curvature, averaging model calculation, above a cutoff frequency, a dominant mode, temperature stabilizer in a pipeline.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 703-305-3309. The examiner can normally be reached on M-F 9-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 703-308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5841 for regular communications and 703-308-5841 for After Final communications.


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TC2800 RightFAX Telephone Numbers : TC2800 Official Before-Final RightFAX - (703) 872-9318, TC2800 Official After-Final RightFAX - (703) 872-9319

TC2800 Customer Service RightFAX - (703) 872-9317

TL

July 8, 2003



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